Project Management Plan

STAFF PLANNING FOR INFLUEANZA SEASON

Project overview

❑ **Background**

➢ The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients. The medical staffing agency provides this temporary staff.
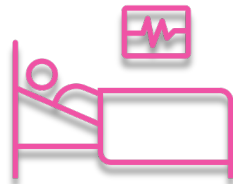
❑ **Objective**

➢ Work out a staffing plan to effectively distribute temporary staff in Influenza season

Stakeholder definition

Medical agency frontline staff
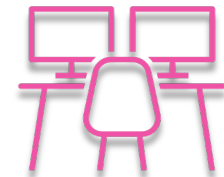
Nurses, physician assistants and doctors

Hospitals and clinics

Health centers using the staffing agency

Influenza patients

Patients in hospitals or getting flew shots

Staffing agency administrators

Responsible staff of the agency for placing temporary health workers

Stakeholder communication

Medical agency frontline staff	Hospitals and clinics	Influenza patients	Staffing agency administrators
❑ Email ❑ Meetings	❑ Email ❑ Meetings ❑ calls	❑ Email	❑ Email ❑ Meetings ❑ calls

Meetings

❑ At the pre outset of the project a general meeting will be hold. Business requirements will be discussed. Every two weeks catch up meeting. Final presentation in week 6.

Emails

❑ Email to inform all stakeholders on the pre outset of the project. Weekly email update.

Calls

❑ Calls will be scheduled if necessary to clarify issues, discuss progress or any other open questions.

Emergency

❑ In case of major changes, which could jeopardize the deadline, an email will be send immediately and a follow up meeting scheduled within 24 hours

Schedule and milestones

Week 1

❑ Starting with requirements

➢ Create a list of the data questions need to be answered for the analysis

❑ Designing a data research project

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➢ Formulate research hypothesis

❑ Sourcing the right data

➢ Describe the data sets you have access to

➢ Explain the relevance and limitations of each data set

Week 2

❑ Data Profiling & Integrity

➢ Create data profile for each of the data sets

➢ Include information on data types, data integrity issues, any cleaning and summary statistics

❑ Data Quality measures

➢ Implement additional data quality related to completeness, uniqueness and timeless

❑ Data Transformation & Integration

➢ Integrate data from two sources into one cohesive data set using transformations

Week 3

❑ Conducting Statistical Analyses

➢ Calculate the variance and standard deviation for key variables

➢ Identify variables with potential relationship and test for correlation

❑ Statistical Hypothesis testing

➢ Formulate a statistical hypothesis regarding an outcome of interest around two groups in your data

➢ Conduct hypothesis testing and interpret the results.

❑ **Consolidating Analytical Insights**

➢ **Create an interim report consolidating the findings of your analysis**

Schedule and milestones

Week 4

- ❑ **Intro to data visualization**
  - ➢ Explain how data visualizations can be used in your project
  - ➢ Install Tableau

- ❑ **Visual Design Basics & Tableau**
  - ➢ Create a data visualization design checklist
  - ➢ Explain how the visualizations in a given example can be improved
  - ➢ Connect your project data to Tableau

- ❑ **Sourcing the right data**
  - ➢ Create a pie, bar or column chart, as well as treemap in Tableau
  - ➢ Use your visualization design checklist to design your charts

Week 5

- ❑ **Temporal Visualizations & Forecasting**
  - ➢ Create a time forecast for a variable and display it in Tableau
  - ➢ Use your visualization design checklist to design your chart

- ❑ **Data Quality measures**
  - ➢ Create visualizations that look at the distribution of a variable
  - ➢ Use your visualization design checklist to design your charts

- ❑ **Statistical Visualizations: Scatter Plots & Bubble charts**
  - ➢ Create visualizations that look at the correlation between variables
  - ➢ Use your visualization design checklist to design your chart

- ❑ **Spatial Analysis**
  - ➢ Map a variable and justify your spatial visualization choice (heat, density or choropleth
  - ➢ Use your visualization design checklist to design your chart

Week 6

- ❑ **Textual Analysis**
  - ➢ Create a world cloud using qualitative data
  - ➢ Use your visualization design checklist to design your chart

- ❑ **Storytelling with Data Presentations**
  - ➢ Create a narrative to communicate your research findings and insights
  - ➢ Publish your analysis as a Tableau storyboard

- ❑ **Presenting Findings to stakeholders**
  - ➢ **Record a video presentation for your stakeholders**

Project deliverables

Interim report

- ❑ Project overview
- ❑ Data cleaning
- ❑ Data integrity
- ❑ Conduct Hypothesis
- ❑ Test correlation between variables

Interim report Tableau storyboard

- ❑ Different types of visualizations
- ❑ Time forecast
- ❑ Implement design checklist
- ❑ Visualization to show correlation of two variables
- ❑ Narrative to explain research findings and insights

Presentation to stakeholders

- ❑ Video presentation for all stakeholders
- ❑ Explain context, objective and goals
- ❑ Present key insights with help of visualizations
- ❑ Present recommendation on effectively implement staffing plan

Context

❑ What is Influenza?

  ➢ Seasonal influenza (the flu) is an acute respiratory infection caused by influenza viruses. It is common in all parts of the world. Most people recover without treatment. Influenza spreads easily between people when they cough or sneeze.

❑ Which people are most vulnerable to influenza?

  ➢ Patients likely to develop flu complications requiring additional care, as identified by the Centers for Disease Control and Prevention (CDC). These include adults over 65 years, children under 5 years, and pregnant women, as well as individuals with HIV/AIDs, cancer, heart, disease, stroke, diabetes, asthma, and children with neurological disorders.

❑ Is there any preventive solution?

  ➢ Vaccination is the best way to prevent complications especially for vulnerable persons when infected with Influenza.

Hypothesis

- Elderly have a higher chance of dying from Influenza
  - If 55+ years old then higher chance of dying from Influenza

- Flew shots prevent Influenza deaths
  - If high amounts of flew shots given to people then Influenza deaths decrease

- Correct allocation of health staff according to the amount and type of population will prevent certain locations from under/over staffing
  - If health care personnel is effectively implemented then improve efficiency

Data Wishlist

- ❏ Influenza death data
  - ➢ How many deaths despite having flew shot

- ❏ Flu-shot rate data
  - ➢ Data per age group and stat

- ❏ Influenza visits data
  - ➢ Additional average weather temperature data

- ❏ Availability of medical staff
  - ➢ availability of medical staff per state is and how the medical staff was positioned over the last few years